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NEWS 15 AUG 09 INSPEC enhanced with 1898-1968 archive
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MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
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=> s microfluid?

L1 17318 MICROFLUID?

=> s l1 and microdroplet preparation module

L2 0 L1 AND MICRODROPLET PREPARATION MODULE

=> s microdroplet preparation module

L3 0 MICRODROPLET PREPARATION MODULE

=> s microdroplet (s) module

L4 10 MICRODROPLET (S) MODULE

=> display l4 1-10 ibib abs

L4 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:109974 CAPLUS

DOCUMENT NUMBER: 145:156996

TITLE: Effect of poling conditions on out-of-plane
displacement for a shear mode PZT actuator

AUTHOR(S): Cheng, C. H.; Chen, S. C.; Young, S. W.; Su, Y. R.;
Lin, Y. C.

CORPORATE SOURCE: Department of Mechanical and Automation Engineering,
DA-YEH University, Changhua, 51505, Taiwan

SOURCE: Sensors and Actuators, A: Physical (2006), A126(2),
386-395

CODEN: SAAPEB; ISSN: 0924-4247

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A shear mode plate-shaped lead zirconate titanate (PZT) actuator for a novel actuating module in a microdroplet ejecting system was fabricated and tested. A novel poling design with both poling electrodes on the same surface is proposed. The actuator is made with lateral polarization parallel to the plane, in contrast to the conventional actuator with the polarization along the plate-thickness direction. Due to the requirement for the excellent electromech. coupling characteristics, the samples poled under various poling conditions were tested and compared to determine the optimum conditions. The poling conditions, including the poling voltage, poling temperature and poling duration, affect the electromech. characteristic or output actuated displacement. The distribution of elec. field in the sample during poling was simulated using com. finite element method (FEM) software to predict the appropriate poling voltage. Exptl. results indicate that the optimum conditions are a poling voltage of 7 kV, a poling temperature of 120 °C and a poling duration of 10 min. The sample with the optimum condition has the highest out-of-plane displacement of 400 nm under an actuating peak-to-peak voltage of 120 Vpp.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:414769 CAPLUS
DOCUMENT NUMBER: 140:416281
TITLE: Thermal micro-valves for micro-integrated devices
INVENTOR(S): Burns, Mark A.; Pal, Rohit
PATENT ASSIGNEE(S): The Regents of the University of Michigan, USA
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004042357	A2	20040521	WO 2003-US34721	20031031
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2004219732	A1	20041104	US 2003-696889	20031030
AU 2003291673	A1	20040607	AU 2003-291673	20031031
PRIORITY APPLN. INFO.:			US 2002-423594P	P 20021104
			US 2003-696889	A 20031030
			WO 2003-US34721	W 20031031

AB The movement and mixing of microdroplets through microchannels is described employing silicon-based microscale devices, comprising microdroplet transport channels, reaction regions, electrophoresis modules, and radiation detectors. The discrete droplets are differentially heated and propelled through etched channels. Electronic components are fabricated on the same substrate material, allowing sensors and controlling circuitry to be incorporated in the same device.

L4 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:89922 CAPLUS
DOCUMENT NUMBER: 136:129910
TITLE: Microscale devices for metered movement of liquid microdroplets in microchannels
INVENTOR(S): Handique, Kalyan; Burns, Mark A.
PATENT ASSIGNEE(S): The Regents of the University of Michigan, USA
SOURCE: PCT Int. Appl., 111 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002007884	A2	20020131	WO 2001-US23245	20010724
WO 2002007884	A3	20020815		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,			

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 CA 2418270 AA 20020131 CA 2001-2418270 20010724
 EP 1303352 A2 20030423 EP 2001-954912 20010724
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2004521315 T2 20040715 JP 2002-513611 20010724
 PRIORITY APPLN. INFO.: US 2000-220320P P 20000724
 US 2001-911055 A 20010723
 WO 2001-US23245 W 20010724

AB The movement and mixing of microdroplets through microchannels
 is described employing microscale devices, comprising microdroplet
 transport channels, reaction regions, electrophoresis modules,
 and radiation detectors. Microdroplets are metered into defined vols. and
 are subsequently incorporated into a variety of biol. assays. Electronic
 components are fabricated on the same substrate material, allowing sensors
 and controlling circuitry to be incorporated in the same device. Aqueous
 droplet flow can be controlled by the introduction of hydrophilic regions
 in the channels that prevent passive capillary flow but that can be passed
 over by application of pressure. These devices are particularly intended
 for high-throughput processing of nucleic acid samples.

L4 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:716119 CAPLUS
 DOCUMENT NUMBER: 133:278329
 TITLE: Moving microdroplets in microfluidic devices
 INVENTOR(S): Handique, Kalyan; Gogoi, Bishnu; Burns, Mark A.;
 Mastrangelo, Carlos H.
 PATENT ASSIGNEE(S): The Regents of the University of Michigan, USA
 SOURCE: U.S., 51 pp., Cont.-in-part of U.S. Ser. No. 888,309.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6130098	A	20001010	US 1997-938689	19970926
US 6057149	A	20000502	US 1995-529293	19950915
US 6048734	A	20000411	US 1997-888309	19970703
CA 2304641	AA	19990408	CA 1998-2304641	19980925
CA 2304641	C	20030902		
WO 9917093	A1	19990408	WO 1998-US19960	19980925
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1017984	A1	20000712	EP 1998-949455	19980925
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001518614	T2	20011016	JP 2000-514114	19980925
AU 759699	B2	20030417	AU 1998-95775	19980925
US 6911183	B1	20050628	US 2000-518895	20000306
AU 2003211181	A1	20030807	AU 2003-211181	20030708
PRIORITY APPLN. INFO.:			US 1995-529293	A2 19950915
			US 1997-888309	A2 19970703
			US 1997-938689	A 19970926
			AU 1998-95775	A3 19980925

AB The movement and mixing of microdroplets through microchannels is described employing microscale devices, comprising microdroplet transport channels, reaction regions, electrophoresis modules, and radiation detectors. The discrete droplets are differentially heated and propelled through etched channels. Electronic components are fabricated on the same substrate material, allowing sensors and controlling circuitry to be incorporated in the same device.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:285627 CAPLUS

DOCUMENT NUMBER: 132:319477

TITLE: Microscale devices and reactions in microscale devices

INVENTOR(S): Burns, Mark A.; Mastrangelo, Carlos H.; Sammarco, Timothy S.; Man, Francis P.; Webster, James R.; Johnson, Brian N.; Foerster, Bradley; Jones, Darren; Fields, Yakeitha; Kaiser, Adam; Burke, David T.

PATENT ASSIGNEE(S): The University of Michigan, USA

SOURCE: U.S., 19 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6057149	A	20000502	US 1995-529293	19950915
US 6048734	A	20000411	US 1997-888309	19970703
US 6130098	A	20001010	US 1997-938689	19970926
US 6271021	B1	20010807	US 1999-271963	19990318
US 6949385	B1	20050927	US 2000-517680	20000302
US 6911183	B1	20050628	US 2000-518895	20000306
US 2001046703	A1	20011129	US 2000-751493	20001228
US 7066453	B2	20060627		
AU 2003211181	A1	20030807	AU 2003-211181	20030708
US 2005272079	A1	20051208	US 2005-119539	20050429
PRIORITY APPLN. INFO.:			US 1995-529293	A2 19950915
			US 1997-888309	A2 19970703
			US 1997-938689	A3 19970926
			AU 1998-95775	A3 19980925
			WO 1998-US19960	W 19980925
			US 1999-271963	A1 19990318
			US 2000-517680	A1 20000302

AB The movement and mixing of microdroplets through microchannels is described employing silicon-based microscale devices, comprising microdroplet transport channels, reaction regions, electrophoresis modules, and radiation detectors. The discrete droplets are differentially heated and propelled through etched channels. Electronic components are fabricated on the same substrate material, allowing sensors and controlling circuitry to be incorporated in the same device. A device fabricated with metal resistive heaters and oxide/nitride/oxide coating was tested for biol. compatibility and temperature control by using PCR amplification of a known DNA template sample.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:232449 CAPLUS

TITLE: Thermal microvalves in a fluid flow method

INVENTOR(S): Burns, Mark A.; Johnson, Brian N.; Chen, Michael

PATENT ASSIGNEE(S): The Regents of the University of Michigan, USA

SOURCE: U.S., 27 pp., Cont.-in-part of Ser. No. US
1995-529293, filed on 15 Sep 1995
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6048734	A	20000411	US 1997-888309	19970703
US 6057149	A	20000502	US 1995-529293	19950915
US 6130098	A	20001010	US 1997-938689	19970926
CA 2294819	AA	19990114	CA 1998-2294819	19980702
CA 2294819	C	20050405		
WO 9901688	A1	19990114	WO 1998-US13819	19980702
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
JP 2001509437	T2	20010724	JP 2000-501359	19980702
AU 748763	B2	20020613	AU 1998-82847	19980702
US 6949385	B1	20050927	US 2000-517680	20000302
US 6911183	B1	20050628	US 2000-518895	20000306
AU 2003211181	A1	20030807	AU 2003-211181	20030708
US 2005272079	A1	20051208	US 2005-119539	20050429

PRIORITY APPLN. INFO.:
US 1995-529293 A2 19950915
US 1997-888309 A2 19970703
US 1997-938689 A3 19970926
WO 1998-US13819 W 19980702
AU 1998-95775 A3 19980925
WO 1998-US19960 W 19980925
US 2000-517680 A1 20000302

AB The movement and mixing of microdroplets through microchannels is described employing silicon-based microscale devices, including microdroplet transport channels, reaction regions, electrophoresis modules, and radiation detectors. The discrete droplets are differentially heated and propelled through etched channels. Electronic components are fabricated on the same substrate material, allowing sensors and controlling circuitry to be incorporated in the same device.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 10 INSPEC (C) 2006 IET on STN

ACCESSION NUMBER: 2006:8853888 INSPEC

TITLE: Effect of poling conditions on out-of-plane displacement for a shear mode PZT actuator

AUTHOR: Cheng, C.H.; (Dept. of Mech. & Autom. Eng., DA-YEH Univ., Changhua, Taiwan), Chen, S.C.; Young, S.W.; Su, Y.R.; Lin, Y.C.

SOURCE: Sensors and Actuators A (Physical) (14 Feb. 2006), vol.126, no.2, p. 386-95, 20 refs.

CODEN: SAAPEB, ISSN: 0924-4247

SICI: 0924-4247(20060214)126:2L:386:EPCP;1-Y

Doc.No.: S0924-4247(05)00586-8

Published by: Elsevier, Switzerland

DOCUMENT TYPE: Journal

TREATMENT CODE: Theoretical; Experimental

COUNTRY: Switzerland

LANGUAGE: English

AN 2006:8853888 INSPEC

AB A shear mode plate-shaped lead zirconate titanate (PZT) actuator for a novel actuating module in a microdroplet ejecting system was fabricated and tested. A novel poling design with both poling electrodes on the same surface is proposed. The actuator is made with lateral polarization parallel to the plane, in contrast to the conventional actuator with the polarization along the plate-thickness direction. Due to the requirement for the excellent electromechanical coupling characteristics, the samples poled under various poling conditions were tested and compared to determine the optimum conditions. The poling conditions, including the poling voltage, poling temperature and poling duration, affect the electromechanical characteristic or output actuated displacement. The distribution of electric field in the sample during poling was simulated using commercial finite element method (FEM) software to predict the appropriate poling voltage. Experimental results indicate that the optimum conditions are a poling voltage of 7kV, a poling temperature of 120°C and a poling duration of 10min. The sample with the optimum condition has the highest out-of-plane displacement of 400nm under an actuating peak-to-peak voltage of 120Vpp. [All rights reserved Elsevier]

L4 ANSWER 8 OF 10 INSPEC (C) 2006 IET on STN

ACCESSION NUMBER: 2001:6982817 INSPEC

DOCUMENT NUMBER: A2001-16-8280T-025; B2001-08-7230L-035

TITLE: Potassium-selective conductometric sensor

AUTHOR: Shvarev, A.E.; Rantsan, D.A.; Mikhelson, K.N. (Chem. Inst., St. Petersburg State Univ., Russia)

SOURCE: Sensors and Actuators B (Chemical) (1 June 2001), vol.B76, no.1-3, p. 500-5, 17 refs.

CODEN: SABCEB, ISSN: 0925-4005

SICI: 0925-4005(20010601)B76:1/3L:500:PSCS;1-D

Price: 0925-4005/2001/\$20.00

Doc.No.: S0925-4005(01)00601-3

Published by: Elsevier, Switzerland

Conference: 8th International Meeting on Chemical Sensors IMCS-8, Basel, Switzerland, 2-5 July 2000

DOCUMENT TYPE: Conference; Conference Article; Journal

TREATMENT CODE: Experimental

COUNTRY: Switzerland

LANGUAGE: English

AN 2001:6982817 INSPEC DN A2001-16-8280T-025; B2001-08-7230L-035

AB Potassium-selective membranes known as sensing modules for potentiometric ion-selective electrodes are studied in ac-impedance mode. It is shown that the bulk resistance of thin (20-250 µm) membranes depends on the composition of aqueous bathing solution. The results are explained in terms of surface conductivity in space-charge region, in the vicinity of water microdroplets in membranes. A planar potassium-selective sensor with a conductometric signal is proposed

L4 ANSWER 9 OF 10 COMPENDEX COPYRIGHT 2006 EEI on STN

ACCESSION NUMBER: 2006(6):5103 COMPENDEX

TITLE: Effect of poling conditions on out-of-plane displacement for a shear mode PZT actuator.

AUTHOR: Cheng, C.H. (Department of Mechanical and Automation Engineering DA-YEH University, Changhua 51505, Taiwan); Chen, S.C.; Young, S.W.; Su, Y.R.; Lin, Y.C.

SOURCE: Sensors and Actuators, A: Physical v 126 n 2 Feb 14 2006 2006.p 386-395

CODEN: SAAPEB ISSN: 0924-4247

PUBLICATION YEAR: 2006

DOCUMENT TYPE: Journal

TREATMENT CODE: Theoretical; Experimental

LANGUAGE: English

AN 2006(6):5103 COMPENDEX

AB A shear mode plate-shaped lead zirconate titanate (PZT) actuator for a novel actuating module in a microdroplet ejecting system was fabricated and tested. A novel poling design with both poling electrodes on the same surface is proposed. The actuator is made with lateral polarization parallel to the plane, in contrast to the conventional actuator with the polarization along the plate-thickness direction. Due to the requirement for the excellent electromechanical coupling characteristics, the samples poled under various poling conditions were tested and compared to determine the optimum conditions. The poling conditions, including the poling voltage, poling temperature and poling duration, affect the electromechanical characteristic or output actuated displacement. The distribution of electric field in the sample during poling was simulated using commercial finite element method (FEM) software to predict the appropriate poling voltage. Experimental results indicate that the optimum conditions are a poling voltage of 7 kV, a poling temperature of 120 deg C and a poling duration of 10 min. The sample with the optimum condition has the highest out-of-plane displacement of 400 nm under an actuating peak-to-peak voltage of 120 Vpp. \$CPY 2005 Elsevier B.V. All rights reserved. 20 Refs.

L4 ANSWER 10 OF 10 COMPENDEX COPYRIGHT 2006 EEI on STN

ACCESSION NUMBER: 2001(32):2290 COMPENDEX

TITLE: Potassium-selective conductometric sensor.

AUTHOR: Shvarev, A.E. (Chemistry Institute St. Petersburg University, 198904 Petrodvoretz, St. Petersburg, Russian Federation); Rantsan, D.A.; Mikhelson, K.N.
MEETING TITLE: Proceeding of the 8th International Meeting on Chemical Sensors.

MEETING LOCATION: Basel, Switzerland

MEETING DATE: 02 Jul 2000-05 Jul 2000

SOURCE: Sensors and Actuators, B: Chemical v 76 n 1-3 Jun 1 2001 2001.p 500-505
CODEN: SABCEB ISSN: 0925-4005

PUBLICATION YEAR: 2001

MEETING NUMBER: 58227

DOCUMENT TYPE: Conference Article

TREATMENT CODE: Experimental

LANGUAGE: English

AN 2001(32):2290 COMPENDEX

AB Potassium-selective membranes known as sensing modules for potentiometric ion-selective electrodes are studied in ac-impedance mode. It is shown that the bulk resistance of thin (20-250 mum) membranes depends on the composition of aqueous bathing solution. The results are explained in terms of surface conductivity in space-charge region, in the vicinity of water microdroplets in membranes. A planar potassium-selective sensor with a conductometric signal is proposed. \$CPY 2001 Elsevier Science B.V. 17 Refs.